

Rocky Flats Environmental Technology Site

4-S57-WP-4701**REVISION 1****WASTE CHARACTERIZATION GAS SAMPLING**

APPROVED BY

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Manager, Solid Waste Operations Group Print Name Date

Responsible Organization Solid Waste Operations Group

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Safe Sites of Colorado
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*Red line for
revision*

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By

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This procedure supersedes procedure 4-S57-WP-4701, Revision 0

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LIST OF EFFECTIVE PAGES

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1	02/05/96		
2	01/21/97		
3 & 4	02/05/96		
5	01/21/97		
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43-47	02/05/96		

The following DMRs for change are active for this procedure

96-DMR-000959, 97-DMR-000058

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Rigid Liner Venting : Verification

1. PURPOSE

This procedure provides Solid Waste Operations Group (SWOG) personnel with instructions to assist the Analytical Laboratory personnel in obtaining Waste Container Headspace Gas Samples (~~Operational Drum Characterization~~) and ~~Intercontaminant Gas Samples (Detailed Drum Characterization)~~ *and to vent and* or aspirating waste containers in the Building 776 Size Reduction Vault (SRV) (146), the Personnel Entry Airlock (146A), the Equipment Airlock (146B), the Maintenance Airlock (146C), or the Advanced Size Reduction Facility (ASRF) Airlocks. ~~Instructions are also provided for the support of Analytical Laboratory personnel in taking the headspace gas samples of waste container containments in one of the SRV Airlocks~~

2. SCOPE

This procedure applies to all SWOG and Analytical Laboratory personnel

This procedure addresses the following in support of waste characterization sampling for waste management

- Vault airlock preparation
- Headspace gas sampling and *drum* venting
- Drum venting and sampling using the remote drum punch
- Waste container purging
- Vacuum Evacuation
- ~~Waste container aspiration and outer containment sampling~~
- Drum closure
- Airlock housekeeping

*Rigid/Liner Venting
and Verification*

This revision is a total rewrite and revision bars are omitted.

This procedure supersedes procedure 4-S57-WP-4701, Revision 0.

3. LIMITATIONS AND PRECAUTIONS

- The proper airflow control for the ASRF Maintenance Disassembly Airlock (MDA) and Transfer Airlock (TA) or the SRV (146), the SRV Personnel Entry Airlock (146A), the SRV Maintenance Airlock (146C), and the SRV Equipment Airlock (146B) shall be verified as being equal to or greater than 50 Linear Feet per Minute (Lfpm) across the process area by SWOG Engineer/Technician (Eng/Tech) personnel. If 50 Lfpm cannot be maintained, the process shall be stopped and the Subject Matter Expert (SME) shall be contacted for guidance.
- All SRV or ASRF Airlock doors shall be locked by SWOG personnel.
- A minimum of one Process Specialist shall be required for ASRF operations.
- A minimum of three Transuranic (TRU) Waste Characterization Program Waste Technicians (Waste Techs), qualified in accordance with the WIPP Waste Characterization Qualifications Standard Package (QSP), shall be required to perform this procedure.
- A minimum of two TRU Waste Characterization Program qualified SWOG Eng/Tech Support personnel shall be required to perform gas sampling as directed by the SWOG Waste Isolation Pilot Project (WIPP) Program Manager.
- Leather gloves shall be worn over Anti-C gloves when handling or moving drums.
- The required personal protective equipment (PPE) shall be designated on the Radiation Work Permit (RWP) by Radiological Operations and by the Industrial Hygiene and Safety Representative on one of the following, as applicable:
 - Chemical Drum Report
 - Waste Identification Log
- Drums containing over 750g total fissile material and other "Outlier" drums (drums requiring physical spacers) shall not be vented. Contact Criticality Safety for guidance for venting of these drums (SJW-25).
- Only solid-matrix IDC drums shall be chosen for venting. Drums containing IDCs considered as solution shall not be processed under this limit (SJW-25).

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3. LIMITATIONS AND PRECAUTIONS (continued)

- All requirements of the Nuclear Material Safety Limits (NMSLs), as defined in the 4-B19-NSM-03.12 checklist, shall be read and complied with.
- All waste generated during the gas sampling process that was not a part of the original waste container contents is considered secondary waste and shall not be discarded in the original waste container or with the waste container contents unless directed otherwise by SWOG Eng/Tech Support personnel.
- Waste container containments that do not contain any loose waste or have less than 1 liter of void space shall not be required to be sampled. SWOG Eng/Tech Support personnel shall make these determinations and document accordingly on the Sample Drum Log or the WIPP Sampling Logbook, as applicable.

4. PREREQUISITE ACTIONS

4.1 Planning and Coordination

SWOG Eng/Tech Support

- [1] Verify that a pre-evolution briefing that authorizes performance of this procedure has been held in accordance with 1-31000-COOP-011, Pre-Evolution Briefing.
- [2] Verify that all SWOG personnel involved in performing this procedure meet the minimum training and qualification requirements as stated in the QSP for the TRU Waste Characterization Program
- [3] Verify that the following personnel are available to perform this procedure, as required.
 - Radiological Control Technician (RCT)
 - Analytical Laboratory Support personnel
 - Nuclear Material Control (NMC) personnel
 - Waste Inspection personnel
 - Process Specialist
 - Waste Tech
 - SWOG Eng/Tech Support

4.1 Planning and Coordination (continued)

NOTE *Plastic sheeting, medium sized bags, fire-retardent plastic and 55-gal poly-liner bags are controlled by Criticality Safety general comment limits. Particular attention to the proper use of these items should be emphasized.*

- [4] Verify that the Nuclear Material Safety Limit (NMSL)/Criticality Safety Operating Limit (CSOL) Pre-Surveillance has been completed in accordance with 4-B19-NSM-03 12, Nuclear Material Safety Limits and Criticality Safety Operating Limits Surveillance
- [5] Obtain guidance from the SME for the configuration of the inner and outer Airlock doors and for support of the sampling or aspiration.

Waste Tech

- [6] Verify that the required PPE has been designated on the RWP by Radiological Operations, and by the Industrial Hygiene and Safety Representative on one of the following, as applicable.
 - Building 776/777 Health and Safety Plan
 - Chemical Drum Report
 - Waste Identification Log
 - Formal Written Guidance
- [7] Verify that the key to enter the ASRF or SRV is available and that the ASRF or SRV Airlock door has been unlocked for the gas sampling or aspiration. *Drum/rigid liner venting*
- [8] Obtain the list of drums scheduled for gas sampling or aspiration from the SWOG Eng/Tech Support Data Recorder. *Drum/rigid liner venting*
- [9] Verify that the required waste containers are prepared in accordance with the following.
 - 1-D99-WO-1100, Radioactive Waste Packaging Inside the Protected Area
 - 1-M12-WO-4034, Radioactive Waste Packaging Requirements
 - 1-C80-WO1102-WRT, Waste/Residue Traveler Instructions

4.1 Planning and Coordination (continued)

SWOG Eng/Tech Support

[10] Verify that the waste containers scheduled for sampling have been in the storage area of Building 776/777 for a ~~minimum of 72 hr.~~ as required for gas sampling.

the required equilibration period

[11] Verify that the video camera is operating properly by using the video test pattern to test the picture quality of the camera, as required. ~~the required equilibration period~~

~~Verify~~ [12] Verify the airflow from Room 134 West to the ASRF or SRV airlocks in accordance with guidance from the SME.

[13] IF a remote drum punch device is to be used,
THEN verify that a gas supply cylinder is pressurized to greater than 100 psi and is available for use

[14] Verify that personnel using the remote drum punch device have successfully completed training class 25-914-01, Pressure Safety I.

RCT

[15] Verify that a pre-job survey of the ASRF or SRV Airlock has been performed and that the airlock is within operating limits

Waste Tech

[16] In the event of an unexpected condition, perform the following

[A] Cease operations.

[B] Contact SWOG Eng/Tech Support personnel or supervision.

Supervision or SWOG Eng/Tech Support personnel will contact the Shift Manager

4.2 Materials and Equipment

4.2.1 Measuring and Test Equipment (M&TE)

Waste Technician

[1] Ensure that the following M&TE is available for use as required by SWOG Eng/Tech Support personnel:

- Calibrated torque wrench (0-100 ft-lb. certified to + 5 ft-lb. and displaying a current Metrology Laboratory Certification Tag)

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4.2.1 Measuring and Test Equipment (M&TE) (continued)

- Calibrated gas meter
- Calibrated TSI airflow meter
- Vacuum pump [Diethylphthalate (DOP) tested] with High Efficiency Particulate Air (HEPA) and carbon filters as specified by the SME

4.2.2 Special Tools and Equipment**Waste Technician**

[1] Ensure that the following special tools and equipment, are available for use as required in accordance with SWOG Eng/Tech Support personnel or supervision

- Plastic sheeting
- 2-in. tape
- Permanent marker
- Knife or scissors
- Several extra pairs of Anti-C gloves
- Medium-sized bag for packaging contaminated Anti-C gloves
- Fire-retardant plastic
- 6-in. and 2-in. fire-retardant plastic tape or duct tape
- Wiping towels (for decontamination)
- Decontamination solution
- 55-gal poly-liner bags labeled as Secondary Waste
- Carbon filters (as required)
- Rigid liner lid bung removal tool (as required)
- Drum punch
- Drum lid retaining device
- Brass punch
- Brass hammer
- Grounding strap
- Certified drum lids
- Drum lid saver
- Remote drum punch
- Remote drum punch gas supply bottle
- Video Camera (as required)
- Video tape (as required)

5. INSTRUCTIONS

5.1 Vault Airlock Preparation

This is a stand-alone section and may be performed independently or in conjunction with other Instruction sections

Gas sampling operations may be performed in the SRV Personnel Entry Airlock, SRV Equipment Airlock, SRV Maintenance Airlock, ASRF Maintenance Disassembly Airlock, or ASRF Transfer Airlock. To simplify this procedure, these areas are called Airlocks, unless otherwise specifically addressed in the procedure.

Only containments that contain the loose waste (inner layer of containment) and have the minimum 1 liter of void space require a gas sample, as determined by Analytical Laboratory personnel and SWOG Eng/Tech Support personnel

SWOG Eng/Tech Support or SWOG Supervisor

- [1] Ensure that all prerequisites in Section 4, Prerequisite Actions, have been completed, and document on Appendix 1, Procedure Checklist.

Waste Tech

- [2] **IF** any waste container is rejected because of a packaging problem or rejected from the TRU Waste Characterization Program because of some other nonconformance,
THEN request that the SWOG Eng/Tech Support Data Recorder contact the SME for guidance.
- [3] Verify that a pre-job survey of the ASRF or SRV Airlock has been completed, as applicable

5.1 Vault Airlock Preparation (continued)

- [4] **IF** contamination is found in the ASRF or SRV Airlock,
 THEN decontaminate as directed by the RCT

- [5] Don PPE in accordance with the following, as applicable
 - RWP
 - Building 776/777 Health and Safety Plan
 - Chemical Drum Report
 - Waste Identification Log
 - Industrial Hygiene & Safety

- [6] **IF** the SRV Airlock is to be used,
 THEN open the outer SRV Airlock doors

- [7] **IF** the ASRF Airlock is to be used,
 THEN request the Process Specialist open the Airlock Doors in accordance with
 4-M78-776-ASRF-001, ASRF Airlock Operations.

- [8] Cover the floor of the Airlock with plastic sheeting

- [9] Place the necessary supplies for the gas sampling or venting and aspiration in or at
 the Airlock, as directed by SWOG Eng/Tech Support personnel.

- [10] Assist the Analytical Laboratory personnel in placing the gas sampling equipment
 in or at the appropriate Airlock, as directed by SWOG Eng/Tech Support
 personnel.

5.1 Vault Airlock Preparation (continued)

- [11] Move the scheduled waste containers to the ASRF or SRV preparation area located outside of the Airlock in accordance with 4-C08-A&S-SWH-WO-5220, Material Handling, as directed by SWOG Eng/Tech Support personnel or supervision

NOTE *Due to the varying conditions encountered during sampling or aspiration, SWOG Eng/Tech Support personnel will provide guidance for the configuration of the inner and outer Airlock doors to support the gas sampling and aspiration while ensuring adequate airflow (50 Lfpm) across the process area.* ~~Aspiration~~ *Venting*

- [12] IF the SRV Airlocks are to be used,
THEN configure the Airlock to provide an airflow of 50 Lfpm averaged across the process area using directions from SWOG Eng/Tech Support personnel
- [13] IF the ASRF Airlocks are to be used,
THEN request the Process Specialist configure the airlock doors to provide an airflow of 50 Lfpm averaged across the process area using directions from SWOG Eng/Tech Support personnel and 4-M78-776-ASRF-001

5.2 Headspace Gas Sampling and Venting

This is a stand-alone section and may be performed independently or in conjunction with other Instruction sections.

SWOG Eng/Tech Support or SWOG Supervisor

- [1] Ensure that all prerequisites in Section 4, Prerequisite Actions, have been completed, and document on Appendix 1, Procedure Checklist.

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5.2 Headspace Gas Sampling and Venting (continued)

Waste Tech

- [2] Record the gas meter calibration due date and identification number on Appendix 1
- [3] Select one waste container from the ASRF or SRV preparation area.
- [4] Remove the waste container folder from the top of the drum and give it to the SWOG Eng/Tech Support Data Recorder or supervision, as required.

~~NOTE All activities associated with the drum gas sampling or aspiration operation are to be verbally announced so the videotape is easily traceable to the drum or bags being gas sampled~~

~~[5] Request that the Camera Operator record the waste container number and operation on the videotape, as required.~~

~~[6] Request that the Camera Operator start the video documentation of the gas sampling or aspiration operation, as required~~

~~[7] Verify that the SWOG Eng/Tech Support Data Recorder has documented the videotape number on the WIPP Sample Drum Log, as required.~~

[8] IF any unusual or unexpected conditions are encountered,
THEN:

[A] Cease operations.

[B] Contact SWOG Eng/Tech Support personnel or supervision.

Supervision or SWOG Eng/Tech Support will contact the Shift Manager.

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5.2 Headspace Gas Sampling and Venting (continued)

NOTE 1 *The removal of the carbon filter Tamper-Indicating Device (TID) may be required ~~for the Operational Characterization~~*

NOTE 2 *The SME may provide additional guidance for Operational and Detailed Drum Characterization due to the variability of the waste that may be sampled. Some of the following steps may be skipped as directed by SWOG Eng/Tech Support personnel during the Operational and Detailed Drum Characterization Operations. Any deviation from this procedure shall be documented on the WIPP Sample Drum Log or in the WIPP Sample Logbook and be approved by the SME*

[9] IF the SRV Airlocks are to be used,
THEN move the selected waste container from the SRV preparation area to the SRV Airlock, as directed by SWOG Eng/Tech Support personnel

[10] IF the ASRF Airlocks are to be used,
THEN request the Process Specialist move the waste container into the ASRF Airlock in accordance with 4-M78-776-ASRF-001 and guidance from SWOG Eng/Tech Support personnel

*Make this
check out
to reader*
[11] IF the waste container is a non-vented drum,
THEN

[A] Move the drum punch or the drum lid retaining device to the designated Airlock, as directed by SWOG Eng/Tech Support personnel.

[B] Inspect the waste container for signs of pressurization (such as rounded bottom, bulging lid, or bulging drum seam)

(i.e., the drum lid ~~is~~ is not equipped with a ~~carbon~~ drum filter)

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Drum

5.2 Headspace Gas Sampling and Venting (continued)

- [C] IF the waste container shows signs of pressurization,
THEN contact SWOG Eng/Tech Support personnel or supervision for
guidance

Procedure 1-62200-HSP-21 03, Hazardous Waste Operations, and
29 CFR 1910 120, Hazardous Waste Operations and Emergency Response,
provide guidance in the event that a waste container shows signs of
pressurization

- [D] Place the ~~waste container~~ scheduled for venting in the drum punch or the
drum lid retaining device

- [E] Secure the ~~waste container~~ in accordance with instructions from SWOG
Eng/Tech Support personnel

- [F] Attach the grounding strap to one of the following as designated by SWOG
Eng/Tech Support

- Waste container
- Drum punch
- Drum lid retaining device

- [G] Place the drum punch in the guide hole as designated by SWOG Eng/Tech
Support

Text A for Section ~~5.6~~ of procedure WP-4701, Waste Characterization Gas Sampling

[12] If the drum is already vented (i.e., the drum lid is equipped with a drum filter) then

[A] Place the drum in the airlock

Analytical Laboratory Support Personnel

[B] Collect headspace gas samples through the drum filter in accordance with L-4146, Headspace Gas Sampling of Sample Drums, as directed by SWOG Eng/Tech Support personnel

SWOG Eng/Tech Support Data Recorder

[C] Document the drum vent verification date on the WIPP Sample Drum Log, Drum Traveler and Daily Drum Log, as required

Waste Techs

[D] Process the drum per the instructions provided in Section 5.6 of this procedure

[13] If there are more drums to be sampled or vented, then return to step [4]

[14] When the drums have been placed in the SRV or ASRF Airlock to vent, and will be left unattended, then secure the appropriate airlock

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5.2 Headspace Gas Sampling and Venting (continued)

WARNING

Personnel performing gas-sampling or venting ~~and aspiration~~ are not to be positioned in the airpath as it flows across the drum lid (upwind or downwind). They should be positioned out of the airpath to the sides of the drum, to lessen the chance of personnel contamination.

Analytical Laboratory Support Personnel

[H] IF gas sampling is to be performed as designated by SWOG Eng/Tech Support,
THEN

[a] Use the punch tool or brass hammer to drive the brass punch into the waste container lid, as applicable

[b] Take the headspace gas sample prior to the removal of the waste container lid in accordance with L-4146, Headspace Gas Sampling of Sample Drums, as directed by SWOG Eng/Tech Support personnel

SWOG Eng/Tech Support or Supervision

[I] Give the Waste Tech the Headspace Gas Sampling Containment number

Waste Tech

[J] Label the waste package with the Headspace Gas Sampling Containment number.

SWOG Eng/Tech Support or Supervision

[K] Record the Headspace Gas Sampling Containment number and the Lab Sample number on the WIPP Sample Drum Log

*Insert Text A here
see attached*

5.2 Headspace Gas Sampling and Venting (continued)

Waste Tech

- [L] IF gas venting is to be performed as designated by SWOG Eng/Tech Support,
THEN: Use the punch tool or brass hammer to drive the brass punch into the ~~waste container~~ ^{drum} lid, as applicable.

WARNING

Care should be taken not to generate sparks when removing the waste container from the drum punch or the drum lid retaining device due to the potential of an explosive gas mixture.

- [M] Carefully remove the drum punch from the drum hole as applicable
- [N] IF SWOG Eng/Tech Support personnel determines that more holes are to be punched in the ~~waste container~~ ^{drum} lid,
THEN:
- [a] Move the drum punch to the designated location on the ~~waste container~~ ^{drum} lid
 - [b] Use the punch tool or brass hammer to drive the brass punch into the ~~waste container~~ ^{drum} lid, as applicable
 - [c] Repeat Steps [a] and [b] as necessary.
- [O] Remove the ~~waste container~~ ^{drum} from the drum punch or the drum lid retaining device, as applicable
- [P] Request that the SWOG Eng/Tech Support Data Recorder document the ~~drum~~ vent start time and date on the following, as applicable.
- WIPP Sampling Logbook
 - WIPP Sample Drum Log
 - ~~WIPP Chain of Custody Log (RF 47720)~~
 - ~~Drum Matrix Report~~
 - Daily Drum Log

5.2 Headspace Gas Sampling and Venting (continued)

- [Q] Disconnect the grounding strap
- [R] IF analysis CANNOT verify that the waste container headspace gases are non-explosive,
AND the waste container is being relocated to the SRV Airlock,
THEN
- [a] Place a lid saver, such as a drum lid cover, on the punched drum
- [b] Move the drum to the SRV Airlock to vent as directed by SWOG Eng/Tech Support personnel
- [S] IF analysis CANNOT verify that the waste container headspace gases are non-explosive,
AND the waste container is being relocated to the ASRF Airlock,
THEN.
- [a] Move the drum to the ASRF Airlock to vent as directed by SWOG Eng/Tech Support personnel
- [b] Request the SWOG Process Specialist move the waste containers into the ASRF Airlock in accordance with 4-M78-776-ASRF-001, as applicable.
- [T] IF there are more drums to be sampled or vented,
THEN return to step [4]
- [U] WHEN the drums have been placed in the SRV or ASRF Airlock to vent,
AND will be left unattended,
THEN secure the appropriate Airlock.

Handwritten notes:
Insert text A here
See attached

5.3 Drum Venting and Sampling Using the Remote Drum Punch

This is a stand-alone section and may be performed independently or in conjunction with other Instruction sections

NOTE *The SWOG WIPP Program Management may provide additional guidance for drum venting and sampling, Operational and Detailed Drum Characterization, due to the variability of the waste that may be sampled. Some of the following steps may be skipped as directed by SWOG Eng/Tech Support personnel during the drum venting and sampling, and Operational and Detailed Drum Characterization operations. Any deviation from this procedure shall be documented in the Comments section on Appendix 1 and approved by the SWOG WIPP Program Manager.*

SWOG Eng/Tech Support or SWOG Supervisor

- [1] Ensure that all prerequisites in Section 4, Prerequisite Actions, have been completed, and document on Appendix 1, Procedure Checklist

Waste Tech

- [2] Inspect the brass punch assembly for defects and abnormal wear (for example, rounded tip, burrs, or peeling)
- [3] **IF** any defects or abnormal wear are detected,
THEN contact SWOG Eng/Tech Support personnel for guidance.
- [4] Attach the pneumatic hoses of the remote drum punch to one of the following, as directed by the SWOG Eng/Tech Support personnel or supervision:
 - Gas supply cylinder.
 - Instrument air drop

5.3 Drum Venting and Sampling Using the Remote Drum Punch (continued)

CAUTION

Allowing the low side pressure on the drum punch to exceed 150 psi may possibly damage the equipment.

NOTE *The pressure required to punch the waste container could be as high as 150 psi, although the normal operating pressure for this unit on these drums is 100 psi*

[5] Test the gas supply cylinder low side pressure for 100 to 145 psi as specified by SWOG Eng/Tech Support personnel

[6] Record the pressure and date on Appendix 1

[7] **IF** the pressure is inadequate,
THEN contact SWOG Eng/Tech Support personnel or the SME for guidance

NOTE *Refer to Appendix 3 for a list of the Remote Punch Accessories and Options*

[8] Inspect the drum punch assembly for the following missing or defective parts (for example, burrs, cracks, or deformations)

- Clevis pin
- Clevis linchpin
- Hitch pin
- Punch collar gaskets
- Bolts and washers

[9] **IF** defects are detected,
THEN stop operations and contact supervision or SWOG Eng/Tech Support personnel for guidance

[10] Inspect the drum punch remote control for defects, such as inadequate connectors

5.3 Drum Venting and Sampling using the Remote Drum Punch (continued)

- [11] IF defects are detected,
THEN stop operations and contact supervision or SWOG Eng/Tech Support personnel for guidance
- [12] Connect the wireless remote control switch to the pressure regulator.
- [13] Connect the pressure regulator to the gas cylinder, as directed by the SWOG Eng/Tech Support personnel or supervisor
- [14] Connect the dual parallel tank hose to the pressure regulator, as directed by the SWOG Eng/Tech Support personnel or the SME
- [15] Obtain a waste container from the ASRF or SRV preparation area.
- [16] Remove the waste container folder from the top of the drum, and give the waste container folder to SWOG Eng/Tech Support personnel or supervision.
- [17] IF sampling is to be performed,
THEN obtain sample, as directed by SWOG Eng/Tech Support personnel or supervision
- [18] Attach filters to the drum punch vent ports, as directed by SWOG Eng/Tech Support personnel or supervision.
- [19] ~~Request that the Camera Operator record the waste container number and the operation on videotape, as required~~
- [20] ~~Request that the Camera Operator start the video documentation of the drum venting and sampling operation, as required~~
- [21] ~~Verify that the SWOG Eng/Tech Support Data Recorder has documented the videotape number on the WIPP Sample Drum Log, as required.~~

drum
If applicable

5.3 Drum Venting and Sampling Using the Remote Drum Punch (continued)

[22] IF any unusual or unexpected conditions are encountered,
THEN:

[A] Stop operations.

[B] Contact SWOG Eng/Tech Support personnel or supervision.

Supervision or SWOG Eng/Tech Support will contact the Shift Manager.

NOTE Due to the varying conditions encountered during sampling or ~~aspiration~~ *venting*,
SWOG Eng/Tech Support personnel will provide guidance for the
configuration of the inner and outer Airlock doors for support of the gas
sampling and ~~aspiration~~ *venting* to ensure adequate airflow (50 Lfpm) across the
process area *venting*

[23] Configure the following, in accordance with guidance from the SME, as
applicable.

- Airlock doors
- Remote punch
- sample equipment

[24] IF operations are to be performed in the SRV Airlock,
THEN move the remote drum punch to the appropriate airlock, as directed by
SWOG Eng/Tech Support personnel or supervision

[25] IF operations are to be performed in the ASRF Airlock,
THEN request the Process Specialist move the remote drum punch to the
appropriate ASRF airlock area in accordance with 4-M78-776-ASRF-001 and
direction from SWOG Eng/Tech Support personnel

[26] Inspect the waste container for signs of pressurization (for example, a rounded
bottom, bulging lid, or bulging drum seam).

[27] IF the waste container shows signs of pressurization,
THEN contact SWOG Eng/Tech Support personnel or supervision for guidance

SWOG Eng/Tech Support or Supervision

[28] WHEN a waste container shows signs of pressurization,
THEN refer to 1-62200-HSP-21.03 and 29 CFR 1910 120 for guidance

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5.3 Drum Venting and Sampling Using the Remote Drum Punch (continued)

CAUTION

Not centering the drum punch on the container or operating it incorrectly may damage the drum punch.

Waste Tech

[29] Place the drum punch unit in the center on top of the ~~waste container~~ being punched

[30] Attach the grounding strap to the waste container

[31] Trace the hoses back to the remote punch station, as identified by SWOG Eng/Tech Support personnel

[32] Inspect the hoses and remove any obstructions, as necessary

WARNING

Failure to keep personnel clear of the punch area during operation may result in personnel injury.

CAUTION

Failure to keep unnecessary equipment clear of the punch area may result in equipment damage.

[33] Verify that the drum punch area is clear of personnel and equipment during punching operations

[34] Open the gas supply valve, and verify the low-side pressure as specified by SWOG Eng/Tech Support personnel or supervision

[35] Raise the lever on the remote punch station to punch the waste container.

5.3 Drum Venting and Sampling Using the Remote Drum Punch (continued)

Analytical Laboratory Support Personnel

- [36] Take the headspace gas sample, as directed by SWOG Eng/Tech Support personnel, if required

SWOG Eng/Tech Support or Supervision

- [37] Give the Waste Tech the Headspace Gas Sampling Containment number.

Waste Tech

- [38] Label the waste package with the Headspace Gas Sampling Containment number.

SWOG Eng/Tech Support or Supervision

- [39] Record the Headspace Gas Sampling Containment number and the Lab Sample number on the WIPP Sample Drum Log.

WARNING

Personnel performing gas-sampling or venting ~~and aspiration~~ are not to be positioned in the airpath as it flows across the drum lid (upwind or downwind). They should be positioned out of the airpath to the sides of the drum, to lessen the chance of personnel contamination.

Waste Tech

- [40] Allow the ~~waste container~~ to vent for the length of time indicated by SWOG Eng/Tech Support personnel or supervision

This venting is performed to allow any pressure that may be in the drum to dissipate

- [41] Lower the lever valve on the remote punch station to raise the punch from the ~~waste container~~ lid

5.3 Drum Venting and Sampling Using the Remote Drum Punch (continued)

[42] Request that the SWOG Eng/Tech Support Data Recorder document ^{drum} the vent start time and date on the following, as applicable:

- WIPP Sampling Logbook
- WIPP Sample Drum Log
- ~~WIPP Chain of Custody Log (RF-47720)~~
- ~~Drum Matrix Report~~
- Daily Drum Log

[43] Remove the drum punch unit from the waste container.

[44] Remove the grounding strap from the waste container.

[45] IF analysis CANNOT verify that the waste container headspace gases are non-explosive,
AND the waste container is being relocated to the SRV Airlock,
THEN

[A] Place a lid saver or drum lid cover on the punched drum

[B] Move the drum to the SRV Airlock to vent, as directed by SWOG Eng/Tech Support personnel

[46] IF analysis CANNOT verify that the waste container headspace gases are non-explosive,
AND the waste container is being relocated to the ASRF Airlock,
THEN:

~~vent~~ ~~slit~~ ~~equilibrate~~
[A] Move the drum to the ASRF Airlock to vent, as directed by SWOG Eng/Tech Support personnel.

[B] Allow the SWOG Process Specialist to introduce the waste containers into the ASRF Airlock in accordance with 4-M78-776-ASRF-001 and SWOG Eng/Tech Support personnel guidance.

5.3 Drum Venting and Sampling Using the Remote Drum Punch (continued)

- [47] Allow the waste container to vent for the length of time indicated by SWOG Eng/Tech Support personnel

possible
This venting is to allow the migration of explosive headspace gasses. *safely* to *diffuse* out of the drum.

- [48] IF additional drums are to be sampled, ~~vented, or aspirated,~~ *or vented*
THEN return to Step [5].

- [49] Turn the gas supply valve until the valve is completely closed

- [50] Verify that the low-supply pressure gauge reads 0 psi

- [51] Check to see if the punch is inactive by cycling the punch lever up and down

- [52] IF the punch is NOT active,
THEN go to step [54]

- [53] IF the punch is active,
THEN return to Step [50]

- [54] Disconnect the wireless remote-control switch from the pressure regulator.

- [55] Disconnect the pressure regulator from the gas cylinder, as directed by the SWOG Eng/Tech Support personnel or supervisor

- [56] Disconnect the dual parallel tank hose from the pressure regulator, as directed by SWOG Eng/Tech Support personnel or the SME.

- [57] Return the remote drum punch to the equipment storage area.

- [58] WHEN the drums have been placed in the SRV or ASRF Airlock to vent,
AND the drums are unattended,
THEN secure the appropriate Airlock

5.4 Waste Container Purging

This is a stand-alone section and may be performed independently or in conjunction with other Instruction sections

Waste containers may require purging to eliminate the need for the drums to vent as prescribed in accordance with Section 5.6, ~~Waste Container Aspiration and Outer Containment Sampling~~. Inert gas or room air may be used to purge the containers, as specified by SWOG Eng/Tech Support personnel.

Rigid Liner Venting

SWOG Eng/Tech Support or SWOG Supervisor

- [1] Ensure that all prerequisites in Section 4, Prerequisite Actions, have been completed, and document on Appendix 1, Procedure Checklist.
- [2] Record the TSI Airflow Meter calibration due date and identification number on Appendix 1, as required

WARNING

Not reinstalling the lid saver/drum lid cover before returning the drum to the SRV Airlock can result in a possibility of accumulating liquids in the drum.

- [3] IF there is a lid saver/drum lid cover installed on the drum,
THEN remove the lid saver/drum lid cover.

Waste Tech

- [4] Attach the vent tubing to the purge-gas source (bottle or Air Drop) as directed by SWOG Eng/Tech Support personnel

5.4 WASTE CONTAINER PURGING (continued)

WARNING

Personnel performing gas-sampling or venting ~~and aspiration~~ are not to be positioned in the airpath as it flows across the drum lid (upwind or downwind). They should be positioned out of the airpath to the sides of the drum, to lessen the chance of personnel contamination.

- [5] Carefully place the vent tubing into one of the vent holes punched in the ~~waste~~
~~container lid~~
drum
- [6] Record the minimum-required purge time on Appendix 1, as directed by SWOG
Eng/Tech Support personnel
- [7] Adjust the purge gas supply valve, as indicated on the RotoMeter, to the flow rate
specified by SWOG Eng/Tech Support personnel
- [8] Record the purge flow rate on Appendix 1.
- [9] Purge the waste container for a period of time greater than the minimum required
time recorded in Step [6].
- [10] **WHEN** the waste container has been purged for the minimum required time as
indicated in step [6],
THEN close the purge-gas supply valve
- [11] Record the actual purge time on Appendix 1
- [12] Remove the vent tubing from the waste container.
- [13] **IF** there was a lid saver/drum lid cover removed from the drum, in step [3],
THEN reinstall the lid saver/drum lid cover

5.5 Vacuum Evacuation

This is a stand-alone section and may be performed independently or in conjunction with other Instruction sections.

Waste container evacuation of the headspace gases using a vacuum pump, may be performed to eliminate the need for the drums to vent in accordance with Section 5.6, ~~Waste Container Aspiration and Outer Containment Sampling~~. A vacuum unit with a DOP-tested and certified HEPA Filtration Unit and carbon filter is used to remove organic vapors to support this process

SWOG Eng/Tech Support or SWOG Supervisor

- [1] Ensure that all prerequisites in Section 4, Prerequisite Actions, have been completed, and document on Appendix 1, Procedure Checklist.

*Rigid Line
Venting & Ventilated*

WARNING

Not reinstalling the lid saver/drum lid cover before returning the drum to the SRV Airlock can result in a possibility of accumulating liquids in the drum.

Waste Tech

- [2] IF there is a lid saver/drum lid cover installed on the drum,
THEN remove the lid saver/drum lid cover.
- [3] Position the vacuum pump exhaust hose in accordance with guidance from SWOG Eng/Tech Support personnel
- [4] IF there are NOT at least three 5/8 inch holes punched in the drum lid,
THEN
 - [A] Set the drum aside for processing in accordance with Section 5.2, Headspace Gas Sampling and Venting
Drum
 - [B] Select another drum and repeat step [4]
- [5] Inspect the inlet or exhaust hoses for obstructions

5.5 Vacuum Evacuation (continued)

- [6] IF there are obstructions in the inlet or outlet hoses of the vacuum pump,
THEN clear the obstructions before proceeding.
- [7] Start the vacuum pump
- [8] Observe the differential pressure on the vacuum pump magnehelic gauge
- [9] IF a low differential pressure is NOT indicated on the vacuum pump magnehelic gauge,
THEN re-inspect the vacuum pump and associated hoses and couplings for obstructions, and clear before continuing
- [10] Position the vacuum inlet hose over the appropriate drum lid holes
- [11] Check for air movement through the vacuum exhaust hose
- [12] IF air movement is NOT present through the vacuum exhaust hose,
THEN perform the following, as applicable
 - [A] Re-inspect the exhaust hose for obstructions
 - [B] Re-inspect the inlet hose for obstructions
 - [C] Inspect the position of inlet hose over the drum lid holes.
 - [D] Inspect the drum lid holes for obstructions.
 - [E] Observe the differential pressure on the vacuum magnehelic gauge.
 - [a] IF the differential pressure is high,
THEN inspect the vacuum pump unit filters to determine if the filters are clogged
 - [F] Contact Supervision or SWOG Eng/Tech Support personnel for guidance

5.5 Vacuum Evacuation (continued)

[13] Evacuate the waste container headspace for approximately 1 5 minutes.

[14] Stop the vacuum pump.

[15] Remove the vacuum inlet hose from the drum lid

RCT

[16] Survey the inlet hose for contamination

SWOG Waste Tech

[17] **IF** the inlet hose is contaminated,
THEN

[A] Contain the contamination in accordance with instructions from the RCT

[B] Contact Supervision or SWOG Eng/Tech Support personnel for guidance.

[18] **IF** there was a lid saver/drum lid cover removed from the drum, in step [2],
THEN reinstall the lid saver/drum lid cover

5.6

~~Waste Container Aspiration and Outer Containment Sampling~~

Rigid Liner Venting and Verification

This is a stand-alone section and may be performed independently or in conjunction with other Instruction sections

SWOG Eng/Tech Support or SWOG Supervisor

- [1] Ensure that all prerequisites in Section 4, Prerequisite Actions, have been completed, and document on Appendix 1, Procedure Checklist.

WARNING

Since a possibility of an explosion exists due to possible elevated concentrations of explosive headspace gases, non-vented drums must be vented before removing the drum lid unless a non-explosive mixture of headspace gas can be verified and documented by SWOG Eng/Tech Support personnel.

Waste Tech

- [2] Verify that the headspace gas mixture is non-explosive or that the drum has vented for the appropriate time as directed by SWOG Eng/Tech Support personnel
- [3] Remove the TID from the waste container in accordance with NMS TID-005, Application and Removal of Tamper-Indicating Devices (TIDs)
- [4] Complete the TID Application and Removal Form (RF-47106).
- [5] Request that the SWOG Eng/Tech Support Data Recorder document the TID removal in the TID Application/Removal section of the WIPP Sample Drum Log, as required
- [6] Remove the drum lid closure ring bolt and drum lid closure ring
- [7] Lift the ~~waste container~~ *drum* lid carefully

Text B for Section 5 6 of procedure WP-4701, Waste Characterization Gas Sampling

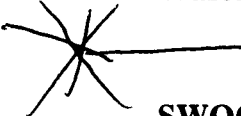
[11] Visually examine the rigid liner lid

[12] If the rigid liner lid does not have the rigid liner lid bung removed (i.e., an approximate one inch diameter hole in it) then

Analytical Laboratory Support Personnel

[A] Collect headspace gas samples from inside the rigid liner in accordance with L-4146, Headspace Gas Sampling of Sample Drums, as directed by SWOG Eng/Tech Support personnel

Waste Tech

 [B] Remove the rigid liner lid bung using the liner bung removal tool

SWOG Eng/Tech Support Data Recorder

[C] Document the rigid/liner vent (Aspiration) start time and date on the WIPP Sample Drum Log, Drum Traveler and Daily Drum Log, as required

[13] If the rigid liner lid does have the rigid liner lid bung removed then document the rigid liner vent (Aspiration) verification date on the WIPP Sample Drum Log, Drum Traveler and Daily Drum Log, as required

10/16/96

5.6 ~~Waste Container Aspiration and Outer Containment Sampling (continued)~~

RCT

- [8] Survey for contamination levels

Waste Tech

- [9] IF the contamination level exceeds the limits as defined in the RWP,
THEN perform the following:

[A] Stop operations

[B] Contact SWOG Eng/Tech Support personnel or supervision

Supervision or SWOG Eng/Tech Support will contact the Shift Manager

- [10] IF the contamination level is within the limits established by the RWP,
THEN control the source of the contamination and decontaminate IAW the RCT
and SWOG Supervision instructions

- [11] Allow the lab personnel to sample through the rigid liner lid, as directed by
SWOG Eng/Tech Support personnel

- [12] Remove the rigid-liner-lid bung using the liner-bung-removal tool

- [13] Request that the SWOG Eng/Tech Support Data Recorder document the start time
and date of the ~~drum aspiration~~ on the WIPP Sample Drum Log, Drum Traveler
and Daily Drum Log, as required.

- [14] IF the Detailed Characterization of the waste container is to be performed, as
directed by SWOG Eng/Tech Support personnel,
THEN:

[A] Remove the waste container liner closure-ring bolt and liner closure-ring.

[B] Lift the rigid liner lid carefully

RCT

- [C] Survey for contamination levels

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See
Text
B
attached

rigid liner
vent aspiration

10/16/96

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Waste Tech

[D] IF the contamination level exceeds the limits as defined in the RWP,
THEN perform the following:

- [a] Stop operations.
- [b] Contact SWOG Eng/Tech Support personnel or supervision.

Supervision or SWOG Eng/Tech Support will contact the Shift
Manager.

5.6 Waste Container Aspiration and Outer Containment Sampling (continued)

- [E] IF the contamination level is within the limits established by the RWP,
THEN control the source of the contamination and decontaminate IAW the
RCT and SWOG Supervision instructions

RCT

- [F] Survey the top surface of the 55-gal drum poly-liner bag for contamination.

Waste Tech

- [G] IF the contamination level exceeds the limits as defined in the RWP,
THEN perform the following:

[a] Stop operations.

[b] Contact SWOG Eng/Tech Support personnel or supervision.

Supervision or SWOG Eng/Tech Support will contact the Shift
Manager.

- [H] IF the contamination level is within the limits established by the RWP,
THEN control the source of the contamination and decontaminate IAW the
RCT and SWOG Supervision instructions.

- [I] Use a permanent marker to label the 55-gal poly-liner bag with the Lab Gas
Sample Number and the Containment Number in accordance with
Appendix 2, Numbering Layers of Containment for Gas Sampling, as
applicable.

Analytical Laboratory Personnel

- [J] Take a gas sample of the 55-gal poly-liner bag, as directed by SWOG
Eng/Tech Support personnel.

Waste Tech

- [K] Tape over the sample extraction hole with 2-in tape

- [L] Notify the SWOG Eng/Tech Support Data Recorder of the Containment
Number for documentation on the WIPP Sample Drum Log, as applicable.

- [15] IF the inner containments are to be sampled,
THEN perform the following as directed by SWOG Eng/Tech Support personnel:

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5.6 Waste Container Aspiration and Outer Containment Sampling (continued)

WARNING

Opening of the outer containment bag may require a different configuration of the Airlock doors to preclude any possible spread of contamination.

- [A] IF SRV operations are to be performed,
THEN configure the Airlock doors with guidance from the SME and Radiological Engineering or Radiological Operations, as documented on the RWP or in accordance with other written guidance
- [B] IF performing ASRF operations,
THEN request the Process Specialist configure or open the Airlock doors in accordance with 4-M78-776-ASRF-001 and guidance from SWOG Eng/Tech Support personnel.

WARNING

Opening of the outer containment bag may require different or additional PPE as an additional safety factor to preclude possible personnel contamination.

- [C] Open the 55-gal plastic-liner bag carefully, to limit the chance of contamination by unwrapping the pig tail or by cutting the pig tail with a knife or scissors, as necessary.

RCT

- [D] Survey the inside surface of the 55-gal poly-liner bag for contamination

Waste Tech

- [E] IF the contamination level exceeds the limits as defined in the RWP,
THEN perform the following:

- [a] Stop operations.
- [b] Contact SWOG Eng/Tech Support personnel or supervision.
Supervision or SWOG Eng/Tech Support will contact the Shift Manager.

- [F] IF the contamination level is within the limits established by the RWP,
THEN control the source of the contamination and decontaminate IAW the RCT and SWOG Supervision instructions.

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5.6 Waste Container Aspiration and Outer Containment Sampling (continued)

[G] Remove one individual inner containment of waste

RCT

[H] Survey the individual inner containment of waste for contamination levels.

Waste Tech

[I] IF the contamination level exceeds the limits as defined in the RWP,
THEN perform the following:

[a] Stop operations

[b] Contact SWOG Eng/Tech Support personnel or supervision.

Supervision or SWOG Eng/Tech Support will contact the Shift
Manager

[J] IF the contamination level is within the limits established by the RWP,
THEN control the source of the contamination and decontaminate IAW the
RCT and SWOG Supervision instructions.

[K] IF the containment requires gas sampling as determined by Analytical
Laboratory personnel or SWOG Eng/Tech Support personnel,
THEN:

Analytical Laboratory Personnel

[a] Take the gas sample.

Waste Tech

[b] Tape over the sample extraction hole with 2-in. tape.

[c] Label the containment with the appropriate containment number in
accordance with Appendix 2.

[d] Give the containment number to the Camera Operator for
documentation on the videotape, as applicable

[e] Transmit the following to the SWOG Eng/Tech Support Data Recorder
for documentation on the WIPP Sample Drum Log:

- Containment number
- Layer of containment
- Lab sample number

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5.6 Waste Container Aspiration and Outer Containment Sampling (continued)

- [L] Repeat Steps [G] through [K][e] until all of the containments in the waste container that require gas sampling have been sampled

5.7 Drum Closure

This is a stand-alone section and may be performed independently or in conjunction with other Instruction sections

SWOG Eng/Tech Support or SWOG Supervisor

- [1] Ensure that all prerequisites in Section 4, Prerequisite Actions, have been completed, and document on Appendix 1, Procedure Checklist
- [2] Record the torque wrench calibration due date and identification number on Appendix 1

Waste Tech

- drum on rigid liner*
- [3] IF the ~~waste container~~ was vented in the ASRF Airlock,
THEN request that the SWOG Process Specialist remove the waste container from the ASRF Airlock in accordance with 4-M78-776-ASRF-001 and guidance from SWOG Eng/Tech Support personnel

- [4] IF the original 55-gal poly-liner CANNOT be reused for packaging the waste container contents,
THEN.

[A] Remove the original 55-gal poly-liner bag from the waste container.

[B] Place a new 55-gal poly-liner bag (designated as secondary waste) in the waste container.

[C] Place the original 55-gal poly-liner bag back inside of the waste container

- [5] Transfer the containments back to the original waste container

5.7 Drum Closure (continued)

~~RCT~~

- ~~[6] Survey the holding drum for contamination~~

Waste Tech

- ~~[7] IF the contamination level exceeds the limits as defined in the RWP,
THEN perform the following:~~

~~[a] Stop operations.~~

~~[b] Contact SWOG Eng/Tech Support personnel or supervision.~~

~~Supervision or SWOG Eng/Tech Support will contact the Shift Manager.~~

- ~~[8] IF the contamination level is within the limits established by the RWP,
THEN control the source of the contamination and decontaminate IAW the RCT
and SWOG Supervision instructions~~

- [9] IF the waste container lid was compromised (such as punctured or ripped) during
the Headspace Gas Sampling process,
THEN:

[A] Secure the waste container with a carbon-filtered drum lid.

[B] Discard the compromised lid as secondary waste

- [10] Secure the waste container in accordance with the following:

- 1-D99-WO-1100
- 1-M12-WO-4034

Waste Inspection

- [11] Verify that the carbon filter and drum lid closure are torqued to the correct torque
specification, as identified in 1-D99-WO-1100.

Waste Tech

- [12] Secure the drum with a TID in accordance with NMS TID-005.

- [13] Complete the TID Application/Removal Form (RF-47106).

- [14] Request that the SWOG Eng/Tech Support Data Recorder document the TID
application in the TID Application/Removal section of the WIPP Sample Drum
Log, and the WIPP Chain of Custody, as applicable.

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*RCT Survey
for contamination*

5.7 Drum Closure (continued)

- [15] Request that the Camera Operator stop the video camera, as applicable.
- [16] Request that the Camera Operator document the videotape number on the WIPP Sample Drum Log, as applicable.

RCT

- [17] Perform a final survey of the waste container for removal from the Airlock.

Waste Tech

- [18] IF the contamination level exceeds the limits as defined in the RWP,
THEN perform the following:
- [a] Stop operations.
 - [b] Contact SWOG Eng/Tech Support personnel or supervision.
- Supervision or SWOG Eng/Tech Support will contact the Shift Manager
- [19] IF the contamination level is within the limits established by the RWP,
THEN control the source of the contamination and decontaminate IAW the RCT and SWOG Supervision instructions.
- [20] IF operations are performed in the SRV Airlock,
THEN move the waste container from the SRV Airlock to the SRV drum preparation area.
- [21] IF operations are performed in the ASRF Airlock,
THEN request the Process Specialist move the waste container from the ASRF Airlock to the ASRF preparation area in accordance with 4-M78-776-ASRF-001.

SWOG Eng/Tech Support

- [22] Reattach the waste container folder to the drum, as applicable.
- [23] Document the completion of the ~~operations characterization or detailed characterization of the waste container~~ *headspace gas sampling and/or venting* in the Comments section of the Traveler, as applicable. *drum and/or rigid liner in*

- [24] Document the following in the Comments section of the Traveler:

- ~~Aspiration~~ start time and date for the drum, if applicable
- Removal of the original TID(s)
- New TID Number(s)

Rigid Liner Vent

? Drum Vent start time and date, if applicable

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5.8 Airlock Housekeeping

This is a stand-alone section and may be performed independently or in conjunction with other Instruction sections.

SWOG Eng/Tech Support or SWOG Supervisor

- [1] Ensure that all prerequisites in Section 4, Prerequisite Actions, have been completed, and document on Appendix 1, Procedure Checklist.

RCT

- [2] Survey all equipment and personnel for contamination.

Waste Tech

- [3] **IF** the contamination level exceeds the limits as defined in the RWP,
THEN perform the following.
 - [a] Stop operations
 - [b] Contact SWOG Eng/Tech Support personnel or supervision.
Supervision or SWOG Eng/Tech Support will contact the Shift Manager
- [4] **IF** the contamination level is within the limits established by the RWP,
THEN control the source of the contamination and decontaminate IAW the RCT and SWOG Supervision instructions
- [5] **IF** operations are performed in the SRV Airlock,
THEN remove the equipment used for gas sampling, venting, aspiration, or evacuation from the Airlock, as applicable.
- [6] **IF** operations are performed in the ASRF Airlock,
THEN request the Process Specialist remove the equipment used for gas sampling, venting, aspiration or evacuation from the Airlock in accordance with 4-M78-776-ASRF-001.
- [7] Collect all waste generated during the gas sampling or aspiration operation, and place in the waste drum in accordance with the following:
 - 1-D99-WO-1100
 - 1-M12-WO-4034
 - 1-C80-WO1102-WRT

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5.8 Airlock Housekeeping (continued)

- [8] **IF** operations are performed in the SRV,
THEN open the SRV Airlock outer doors, as applicable
- [9] **IF** operations are performed in the ASRF,
THEN request the Process Specialist open the ASRF Airlock doors in accordance with 4-M78-776-ASRF-001

RCT

- [10] Survey personnel leaving the Airlock

Waste Tech

- [11] Place the contaminated PPE in the waste drum in accordance with the following
 - 1-D99-WO-1100
 - 1-M12-WO-4034
 - 1-C80-WO1102-WRT
- [12] Secure the waste drum in accordance with the following, as applicable
 - 1-D99-WO-1100
 - 1-M12-WO-4034
 - 1-C80-WO1102-WRT
 - NMS-MC-005, Serialized White 35- and 55-Gallon Drums
- [13] **IF** operations are performed in the SRV Airlock,
THEN move the waste container from the SRV Airlock to the SRV drum preparation area, as directed by SWOG Eng/Tech Support personnel.
- [14] **IF** operations are performed in the ASRF Airlock,
THEN request the Process Specialist move the waste container from the ASRF Airlock to the ASRF preparation area in accordance with 4-M78-776-ASRF-001 and guidance from SWOG Eng/Tech Support personnel

6. POST-PERFORMANCE ACTIVITY

6.1 Disposition

Appendix 1 is a Quality Assurance Record generated by this procedure

SWOG Eng/Tech Support

- [1] Maintain Appendix 1 in accordance with 1-77000-RM-001, Records Management Guidance for Records Sources
- [2] Maintain the following records in accordance with 4-Q31-WP-4710, WIPP Quality Assurance Records Procedure
 - Waste Identification Log
 - ~~WIPP~~ Sample Drum Log
 - Sampling Logbook
 - Sample folder
 - Dosimetry Log

7. REFERENCES

Building 776/777 Health and Safety Plan

Hydrogen Diffusion Tables

L-4146, Headspace Gas Sampling of Sample Drums

NMS-MC-005, Serialized White 35- and 55-Gallon Drums

NMS TID-005, Application and Removal of Tamper-Indicating Devices (TIDs)

NMS-TID-007,

SJW-25, Criticality Safety Evaluation

1-C80-WO1102-WRT, Waste/Residue Traveler Instructions

97-DMR-000058

APPENDIX 1
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PROCEDURE CHECKLIST

5 1[1] Prerequisites in Section 4 are complete

SWOG Eng/Tech Support or SWOG Supervisor / Date

5 2[1] Prerequisites in Section 4 are complete

SWOG Eng/Tech Support or SWOG Supervisor / Date

5 2[2] Gas Meter Calibration due date _____
Identification number _____

5 3[1] Prerequisites in Section 4 are complete

SWOG Eng/Tech Support or SWOG Supervisor / Date

5 3[6] Drum punch pressure gauge Low side pressure: _____
Date: _____

5 4[1] Prerequisites in Section 4 are complete

SWOG Eng/Tech Support or SWOG Supervisor / Date

5 4[2] TSI Airflow Meter Calibration due date _____
Identification number. _____

5 4[6] Minimum-required purge time: _____

5.4[8] Purge flow rate _____

5.4[11] Actual purge time _____

5.5[1] Prerequisites in Section 4 are complete.

SWOG Eng/Tech Support or SWOG Supervisor / Date

APPENDIX 1
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5 6[1] Prerequisites in Section 4 are complete

SWOG Eng/Tech Support or SWOG Supervisor

Date _____

5.7[1] Prerequisites in Section 4 are complete.

SWOG Eng/Tech Support or SWOG Supervisor

Date _____

5 7[2] Torque wrench Calibration due date _____
Identification number _____

5 8[1] Prerequisites in Section 4 are complete







SWOG Eng/Tech Support or SWOG Supervisor

Date _____

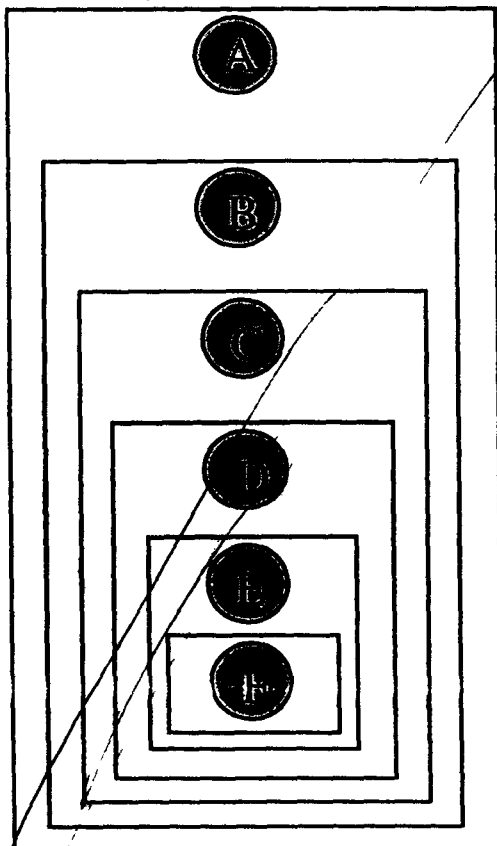
Comments.

APPENDIX 2
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NUMBERING LAYERS OF CONTAINMENT FOR GAS SAMPLING

-  Drum
-  Rigid Liner
-  Poly-Bag Liner
-  Container within Poly-Bag Liner
-  Container within Container
-  Container within Container within Container

Layers of Containment



Numbering Containment for Gas Samples

-  DXXXXX-A-1
-  DXXXXX-B-2
-  DXXXXX-C-3
DXXXXX-C-4
-  DXXXXX-D-5
DXXXXX-D-6
-  DXXXXX-E-7
DXXXXX-E-8
-  DXXXXX-F-9
DXXXXX-F-10

DXXXXX-A-1

Drum Containment Package
Number Layer Number